In the Claims:

1. (Currently amended) A device comprising:

a heat sink; and

a radiation-emitting optoelectronic component ~~(1)~~ which is connected to [[a]] said heat sink ~~(3)~~ and is intended for pulsed operation with the pulse duration D,

wherein said heat sink is arranged such that temperature changes of the optoelectronic component ~~taking~~ take place with a thermal time constant τ during pulsed operation, and

~~characterized in that~~ wherein the thermal time constant τ is matched to the pulse duration D in order to reduce the amplitude of the temperature changes.

2. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1,

~~characterized in that~~ wherein

the thermal time constant τ is $\tau > 0.5$ D for.

3. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1,

~~characterized in that~~ wherein

the thermal time constant τ is $\tau >$ D.

4. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of claims 1 to 3~~,

~~characterized in that~~ wherein

the temperature changes are less than $\Delta T = 12$ K.

5. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

pulsed operation is effected at a pulse frequency in the range from 0.1 Hz to 10 Hz.

6. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

~~it~~ the optoelectronic component has an optical output power of 20 W or more.

7. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the heat sink ~~(3)~~ is actively cooled.

8. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 7,

~~characterized in that~~ wherein

the heat sink ~~(3)~~ has one or more microchannels ~~(6)~~ through which a coolant flows.

9. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 8,

~~characterized in that~~ wherein

a wall of the heat sink that adjoins the optoelectronic component ~~(1)~~ has a wall thickness ~~(7)~~ of 0.5 mm or more.

10. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 8,

~~characterized in that~~ wherein

a wall of the heat sink that adjoins the optoelectronic component ~~(1)~~ has a wall thickness ~~(7)~~ of between 1 mm and 2 mm inclusive.

11. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of the preceding claims~~,

~~characterized in that~~ wherein

the heat sink ~~(3)~~ contains copper.

12. (Currently amended) The ~~optoelectronic component~~ device as claimed in claim 1, ~~one of the preceding claims~~,

~~characterized in that~~ wherein

the optoelectronic component ~~(1)~~ is a laser diode bar.

13. (Currently amended) A method for producing ~~an optoelectronic component~~ the device as claimed in claim 8 ~~one of claims 8 to 12~~,

~~characterized in that~~ wherein

a wall of the heat sink ~~(3)~~ that adjoins the optoelectronic component ~~(1)~~ has a wall thickness ~~(7)~~ and the temperature change and/or the maximum temperature of the component ~~(1)~~ during operation is set by dimensioning the wall thickness ~~(7)~~.

14. (Currently amended) A method for producing a device having a radiation-emitting optoelectronic component ~~(1)~~ which is connected to a heat sink ~~(3)~~ and is intended for pulsed operation with the pulse duration D, temperature changes of the optoelectronic component taking place with a thermal time constant τ during pulsed operation, the method comprising:

~~characterized in that~~

setting the thermal time constant τ ~~is matched~~ to match the pulse duration D in order to reduce the amplitude of the temperature change.

15. The method as claimed in claim 14,

~~characterized in that~~ wherein

the thermal time constant τ is set by dimensioning the area and/or the thickness of a substrate on which the optoelectronic component ~~(1)~~ is produced.